

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

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APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37

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I. Introduction

This is an Appeal Brief under 37 C.F.R. § 41.37 appealing the final rejection of the Examiner dated October 17, 2006. Each of the topics required by 37 C.F.R. § 41.37 is presented in this Brief and is labeled appropriately.

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II. Real Party in Interest

Symbol Technologies, Inc. (“Symbol Technologies”) is the real party in interest of the present application. An assignment of all rights in the present application was executed on April 19, 2002 by Kelvin Chong, Srinivas Mandyam, Krishna Vedati, Vikranth Katpally Reddy and Winston Wang to Covigo, Inc. and recorded by the U.S. Patent and Trademark Office on May 20, 2002 at **Reel 012910, Frame 0238**. Another assignment of all rights in the present application was executed on October 26, 2006 by Covigo, Inc. to Symbol Technologies and recorded by the U.S. Patent and Trademark Office on December 12, 2006 at **Reel 018620, Frame 0418**.

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III. Related Appeals and Interferences

There are no appeals or interferences related to the present application of which Appellants are aware.

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IV. Status of Claims

Claims 1-4, 6-14, 16-22 and 25-26 (22 total claims; 4 independent claims), which are presented in the Claims Appendix, stand finally rejected. Claims 5, 15 and 23-24 have been cancelled. Accordingly, the Appellants hereby appeal the final rejection of Claims 1-4, 6-14, 16-22 and 25-26.

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V. Status of Amendments

At present, all amendments submitted by Appellants have been entered. Following a final Office action, dated October 17, 2006, Appellants filed a Request for Pre-Appeal Review and Reply to Final Office Action, requesting reconsideration of the rejection of Claims 1-4, 6-14,
5 16-22 and 25-26. In the Pre-Appeal Brief conference, it was determined that there is at least one factual issue for appeal. Accordingly, Appellants submit this appeal brief the Board of Patent Appeals and Interferences for resolution of these factual issue(s).

VI. Summary of Claimed Subject Matter

10 Embodiments of the present invention relate generally systems and methods for visually building multi-channel applications.

Independent claim 1 relates to a computer-readable medium having computer-executable modules. The computer-readable medium includes a first computer-executable module, a second computer-executable module and a third computer-executable module. The first
15 computer-executable module is adapted to allow a developer to visually design workflow describing a multi-channel application capable of operating over a plurality of channels. The workflow includes a plurality of layers, where each of the layers corresponds to at least one channel of the multi-channel application. The workflow includes a plurality of states and a plurality of transitions. Each layer includes states and transitions common to at least one
20 channel of the multi-channel application. The second computer-executable module allows a developer to design views for the multi-channel application, and the third computer-executable module allows the developer to integrate data sources within the multi-channel application. (See FIGS. 17, 19, 27, 28, 55 and Abstract; page 16, line 18- through page 17, line 2; page 32, lines 3-9; page 35, lines 1-3; page 36, line 22 through page 37, line 15; page 38, lines 10-22; and page
25 74, line 19 through page 75, line 7).

Independent claim 7 relates to a computer system for visually building multi-channel applications. The computer system includes a graphical user interface (GUI). The GUI includes a user interface selection device and a display for displaying an interactive development environment for visually designing workflow describing a multi-channel application capable of
30 operating over a plurality of channels. The interactive development environment allows a

developer to independently design the workflow in a plurality of layers, where each layer includes states and transitions common to at least one channel of the multi-channel application. (See FIGS. 17, 19, 27, 28, 55 and Abstract; page 16, line 18- through page 17, line 2; page 32, lines 3-9; page 35, lines 1-3; page 36, line 22 through page 37, line 15; page 38, lines 10-22; and
5 page 74, line 19 through page 75, line 7).

Independent claim 13 relates to a computer system for visually building a multi-channel application capable of operating over a plurality of channels. The computer system includes a graphical user interface adapted to allow a user to visually build a single workflow describing a multi-channel application capable of operating over a plurality of channels, and a module for
10 converting the visually built workflow into a markup language. The single workflow comprises a plurality of layers, where each of the layers corresponds to at least one channel of the multi-channel application. The single workflow includes a plurality of states and a plurality of transitions, where each layer includes states and transitions common to at least one channel of the multi-channel application. (See FIGS. 17, 19, 27, 28, 55 and Abstract; page 16, line 18-
15 through page 17, line 2; page 32, lines 3-9; page 35, lines 1-3; page 36, line 22 through page 37, line 15; page 38, lines 10-22; and page 74, line 19 through page 75, line 7).

Independent claim 19 relates to a method of building a multi-channel application. According to this method, an application workflow is designed within a visual development environment in a plurality of layers. The application workflow describes a multi-channel
20 application capable of operating over a plurality of channels. The application workflow comprises a plurality of states and a plurality of transitions. The application workflow also includes a plurality of layers, wherein each layer includes states and transitions common to at least one channel of the multi-channel application. After linking the states, the application workflow is converted into an application descriptor for delivering the application over at least
25 one of the plurality of channels. (See FIGS. 17, 19, 27, 28, 55 and Abstract; page 16, line 18- through page 17, line 2; page 32, lines 3-9; page 35, lines 1-3; page 36, line 22 through page 37, line 15; page 38, lines 10-22; and page 74, line 19 through page 75, line 7).

VII. Grounds of Rejection to be Reviewed on Appeal

The grounds of rejection to be reviewed in this appeal are as follows:

1. Claims 1-4, 6-12, 19-22 and 25-26 were rejected under 35 U.S.C. § 103(a) as
5 allegedly being unpatentable over U.S. Patent No. 5,630,069 (Flores) in view of U.S. Patent
Application Publication No. 2002/0138617 A1 (Christfort).

2. Claims 13-14 and 16-18 were rejected under 35 U.S.C. § 103(a) as allegedly
being unpatentable over Flores in view of Christfort and further in view of Ambler (U.S. Patent
10 No. 6,393,456 (Ambler)).

VIII. Arguments

15 To assist the Board in interpreting the meaning of various claim terms used in the
arguments section, in sections VIII. A. Appellants will briefly describe how the claims read on
particular embodiments described in the present application with reference to section VIII. A.
below. Appellants note that the claims should not be construed as being limited by the
exemplary embodiments discussed in the overview; rather, this description is provided to better
20 facilitate the Board's understanding of how the claims read on particular embodiments described
in the present application. Before discussing the deficiencies the rejections presented in the final
rejection (dated October 17, 2006), Appellants will briefly discuss the cited references in section
VIII. B-D.

25 A. OVERVIEW OF EMBODIMENTS OF THE PRESENT INVENTION

With the growing popularity of cellular devices, personal digital assistants, voice
technologies and the Internet, there is a need for developing software applications that support
operation in multiple modes over multiple channels. Current approaches involve developing
separate custom applications for each variation in mode, channel, browser, and/or device. This
30 approach is expensive and time intensive, as the developer is essentially building the application

multiple times, rather than once. Maintenance becomes cumbersome; one change necessitates making changes in multiple locations. Conventional approaches also include several visual or graphical techniques that allow programmers to build applications rapidly. However, the resulting programs built using such development environments are typically single-channel or single-mode. (See page 3, line 16 through page 4, line 10.)

Embodiments of the present invention relate to a system and method for visually building multi-channel and multi-modal applications which employ an interactive development/design environment (IDE) 500. The IDE 500 provides a graphical user interface (GUI) 400 which allows a developer to design a single application that can operate across multiple network standards, devices, browsers and languages, and that operate in one or more modes, such as real-time, off-line and asynchronous modes. (See Figures 17, 19 and Abstract)

States and Transitions

To visually build a multi-channel application, a developer may visually design a state diagram called “an interaction flow” or “workflow” diagram 442 of the application, which defines the logical flow of the application including all interactions between the application and the end user, as well as back-end resources and processes. (See FIG. 27, step 654). The logic that ties the application together includes basic units called states, which are linked together by transitions. (See, for example, Figures 17 and 19 and page 32, lines 3-9.) States, transitions, actions and controllers can be combined together to form a complete and functional application. (See, for example, Figure 17, 19, 27 and 28 and page 35, lines 1-3.)

To create a workflow diagram 442 a developer first uses a process design module interface 408 to identify the states that the application or controller requires. Once all “states” have been defined, each state of the application flow can then be connected or linked together using “transitions” which direct transition flow between states. (See Figures 17, 19 and 27 and page 36, line 25 through page 37, line 3.). These steps “create a visual depiction of the transition and functionally link the states within the interaction workflow diagram 442.” (See page 38, lines 10-22.) The resulting workflow diagram provides a visual map of the paths that an end user can take through an application. For example, the interaction workflow diagram 442 defines the user interaction flow for the application between the client device and the server or the client

device and the device local server (application) generated out of GUI 400. (See page 37, lines 6-15.)

Layers

Importantly, the IDE 500 allows for the creation of applications and controllers in multiple layers which facilitate the development of multi-channel applications by providing a method for developers to isolate channel-specific application behavior. When multiple channels behave in the same manner, their views may all be associated with the same state. If one channel requires different or additional interactions with the user, the developer may separate its states onto a different layer. This provides several advantages, including: making it easy to isolate one channel for development, debugging, and maintenance; making it easy to deploy or hold back specific channels; and providing visualization of where and how applications differ. (See Figure 19 and 55 and page 74, line 19 through page 75, line 7.) The layers can be represented visually on the interaction workflow diagram 442 of FIG. 19 using different colors. Layers are functional as well--if a layer is hidden during deployment, its states is not deployed to the engine 132 and are unable to be used by end users.

Because the workflow diagram provides a visual representation of the multi-channel application, this allows application developers to globally view the application and to visually diagram an interaction flow or “workflow” of the application. (See Figures 17, 19 and 27 and page 36, line 22 through page 37, line 3.) This allows application developers to rapidly model a complete multi-channel application. For instance, the IDE 500 allows a developer to consolidate the design of various custom applications into a single application that can handle multiple modes, channels, and device capabilities. This eliminates the need to design separate custom applications for each variation in mode, channel, browser, and/or device. (See page 16, line 18-through page 17, line 2.)

B. Flores

Flores relates to a method and system which provides consultants, business process analysts, and application developers with a unified tool with which to conduct business process analysis, design, and documentation. The method and system may be implemented using a software system which has two functional sets. One is a set of graphical tools that can be used

by a developer or business analyst to map out business processes. The second is a set of tools that can be used to document and specify in detail the attributes of each workflow definition, including roles, timing, conditions of satisfaction, forms, and links required to complete a business process definition. Flores utilizes workflow analysis to interpret any business process as a sequence of basic transactions called workflows. See the Abstract of Flores; emphasis added.

Col. 3, lines 56-67 of Flores discusses that: “A workflow can be linked (and initiate) multiple workflows from one of its phases. If all the workflows start at the same moment, the multiple workflows are said to have started in parallel. Multiple workflows can also be started serially. There are two mechanisms to indicate the serialization of workflows. As illustrated in FIG. 2, workflows serial 1 and serial 2 are sequential workflows. The primary workflow at the beginning of the agreement phase, has a link to start workflow serial 1. Workflow serial 2 is linked from the satisfaction phase of workflow serial 1. Upon satisfaction of workflow serial 2, there is a link back to the primary workflow.” Flores at column 3: 56-67; emphasis added.

Col. 5, lines 35-40 of Flores discloses “a GUI application that allows a business process analyst to specify the map of business processes with its network of workflows. Its output is readable by the application builder which will update the definitions database of the server.” column 7, lines 10-30 of Flores further discusses that “The invention produces standard workflow maps of business processes that show workflows and the links defined between workflows.” (Flores at column 7: 25-30; emphasis added.)

C. Christfort

Christfort relates to a network based operating system for mobile clients. Services may be developed that can be used to support different client devices with different capabilities. The services provide output with multiple variations based on different devices, and an intermediary selects the variation best suited for the requesting device. See the Abstract of Christfort. Paragraph [0066] of Christfort discusses that:

“[0066] FIG. 1A also illustrates end users 130, 132, 134 that are connected to host server 110 by connections 140, 142, 144. Although end users 130, 132, 134 are shown external to network 100 in FIG. 1, end users 130, 132, 134 or other end users not shown may also be part of network 100. There are a number of different types of end users and connections. For example,

5 end user 130 may be a desktop computer that is connected to host server 110 through a variety of ways, such as via the Internet, a DSL connection, or an ISDN. Also, end user 132 may be a PDA that is connected to host server 110 via a cellular modem connection. Further, end user 134 may be a mobile phone that is connected to the Internet and thereby to host server 110 via a WAP-to-HTTP gateway.”

Paragraph [0095] of Christfort discusses that:

10 “[0095] As soon as a service has been created and/or revised, end users or customers that can connect to the network on which the server resides (e.g., the Internet) can access the service. The process by which the service is accessed may vary based on the type of end user. For example, a desktop computer can connect to the Internet through a dial-up line, a DSL connection, a cable modem, an ISDN connection or many other available methods. WAP phones may connect to the Internet over a wireless connection using a synchronous protocol, such as through a WAP-to-HTTP gateway, or using an asynchronous protocol, such as the simple mail transfer protocol (SMTP) or the short message service (SMS) protocol.”

20 D. Ambler

Ambler relates to transreceiving workflow specifications using electronic messaging with messages having a content type "multipart" in a MIME header and a content sub-type representative of a workflow specification. One benefit of using the MIME "multipart" content type is that there can be an encapsulation of several entities within the entity-body of a single message, which is a feature inherent to the multipart content type. The content sub-type code designating a workflow is important in that it will not have any special meaning for HTTP. The workflow specifications are proposed to be written in extensible Mark-up Language (XML), which provide a robust tool for specifying workflows. See the column 8, lines 33-46 of Ambler. Ambler also proposes setting forth workflow process definitions or specification that are written in the extensible Mark-up Language (XML). XML was developed by the W3C as a pared down version of Standard Generalized Mark-up Language (SGML) which was designed specially for World Wide Web (Web) documents. XML enables designers to create their own customized tags to provide functionality not available with HTML. For example XML supports links that point to multiple documents as opposed to HTML links, which can reference just one destination each. See the column 12, lines 49-59 of Ambler.

E. CLAIMS 1-4, 6-12, 19-22 and 25-26 ARE PATENTABLE UNDER 35 U.S.C. § 103(a)
OVER FLORES AND CHRISTFORT

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In the final Office Action dated October 17, 2006, Claims 1-4, 6-12, 19-22 and 25-26 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Flores and Christfort. As will be explained in more detail herein below, this rejection is not tenable at least because elements recited in independent Claim 1 are not found in either of the cited references.

10 The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. In re Fine, 837 F.2d 1071, 1074 (Fed. Cir. 1988). Indeed, the Examiner has the burden of setting forth a detailed evidentiary basis for the teaching, suggestion or motivation to combine the cited references. As the Court of Appeals for the Federal Circuit has repeatedly stated, the factual inquiry of whether to combine references must be thorough and searching, and must be based
15 upon the objective evidence of record. In re Sang Su Lee, 277 F.3d 1338, 1343 (Fed. Cir. 2002). Moreover, a claim cannot be found *prima facie* obvious unless all the elements of the claim are taught or suggested in the cited art. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974); In re Wilson, 424 F.2d 1382, 1385 (C.C.P.A. 1970) (“All words in a claim must be considered in judging the patentability of that claim against the prior art.”). Just because a prior
20 art reference *can* be modified does not render the proposed modification obvious unless the prior art suggests the desirability of making the proposed modification. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Appellants submit that the Examiner has not met his burden, since the references do not teach or suggest all of the claim elements, and further because the Examiner has not established that a skilled artisan would have been motivated to combine the
25 teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so. DyStar Textilfarben GmbH v. C.H. Patrick Co., 464 F.3d 1356, 1360 (Fed. Cir. 2006); Velander v. Garner, 348 F.3d 1359, 1363 (Fed. Cir. 2003).

30

1. Independent claim 1 and Dependent claims 2-4 and 6

Claim 1 relates a computer-readable medium having computer-executable modules in a system for visually building multi-channel applications. The computer-readable medium comprises:

5 a first module adapted to allow a developer to visually design workflow describing a multi-channel application capable of operating over a plurality of channels, the workflow comprising a plurality of layers, wherein each of said layers corresponds to at least one channel of said multi-channel application, wherein said workflow comprises a plurality of states and a plurality of transitions, 10 wherein each layer includes states and transitions common to at least one channel of said multi-channel application;

a second module adapted to allow a developer to design views for said multi-channel application; and

15 a third module adapted to allow a developer to integrate data sources within said multi-channel application. (Emphasis added.)

20 *a. There is no motivation to combine Flores and Christfort produce a “workflow describing a multi-channel application capable of operating over a plurality of channels,” as required by claim 1.*

Flores merely discloses the general concept of a “workflow” application. In Flores, the workflows do not describe a multi-channel application, and the workflow enabled application of Flores is not capable of operating over a plurality of channels. As conceded by the Office, Flores 25 does not disclose, or even remotely suggest, for example, “a first module adapted to allow a developer to visually design workflow describing a multi-channel application capable of operating over a plurality of channels,” as recited in claim 1. See Office Action dated May 03, 2006 at page 3, paragraph bridging pages 3 and 4; emphasis added.

To meet these deficiencies of Flores, the Office cites paragraphs [0066] and [0095] of 30 Christfort as teaching a multi-channel application capable of operating over a plurality of channels, and asserts that this limitation would have been obvious in view of the teachings of Flores and Christfort.. See Office Action dated May 03, 2006 at page 4, first full paragraph.

Appellants submit that there is no motivation to combine the teachings of Flores and Christfort, and that there is no suggestion or motivation to modify Flores. The Examiner has

shown no evidence of a motivation for combining the teachings of Flores and Christfort in a system for visually building multi-channel applications.

Instead the Examiner has impermissibly used hindsight in an attempt to reconstruct claim 1 using isolated teachings of Flores and Christfort. Flores discloses visually building an application, and Christfort discloses a multi-channel application. Christfort merely discloses the concept of a single application and a middleware transformer 112 which filters the output from that application (i.e., selects particular output segments of that application) to produce a customized output which it sends to the end user, but does not suggest that a workflow describes a multi-channel application capable of operating over a plurality of channels. The “customized output” of Christfort refers to output of the application that varies; not a customized application.

The Examiner has shown no motivation to use the system of Flores to build a multi-channel application. For example, nothing in Christfort hints that a multi-channel application can be visually built or designed using a system like the one in Flores, and as admitted by the Office, Flores does not contemplate using his system to design a multi-channel application. As noted in the present application, the interactive development/design environment (IDE) 500 is particularly beneficial in the context of visually designing a multi-channel application since it provides a graphical user interface (GUI) 400 which allows a developer to design a single application that can operate across multiple network standards, devices, browsers and languages. (See Figures 17, 19 and Abstract). This allows a developer to consolidate the design of various custom applications into a single application that can handle multiple modes, channels, and device capabilities. This eliminates the need to design separate custom applications for each variation in mode, channel, browser, and/or device. (See present application at page 16, line 18- through page 17, line 2.). At the time of the invention, there is no evidence that Flores in view of Christfort would resolve this need, and the Examiner has not provided any evidence which suggests the benefits of using the Model-View-Controller (MVC) programming paradigm to visually design a multi-channel application. Accordingly, there is no motivation to modify the workflow analysis environment of Flores to create a multi-channel application.

b. *The cited references also fail to teach or suggest that the workflow comprises “a plurality of layers,” as required by claim 1.*

The Office rejects claim 24 based on column 3, lines 56-67, column 5, lines 35-40 and column 7, lines 10-30 (reproduced above) of Flores and paragraphs [0066] and [0095] of Christfort. Both of these sections are reproduced above.

In rejecting claim 1, the Examiner opines that of Flores teaches a “workflow comprising a plurality of layers.” Appellants submit that there is absolutely no support for this position.

As noted above, the IDE 500 described in the present application allows for the creation of applications and controllers in multiple layers which facilitate the development of multi-channel applications by providing a method for developers to isolate channel-specific application behavior. When multiple channels behave in the same manner, their views may all be associated with the same state. If one channel requires different or additional interactions with the user, the developer may separate its states onto a different layer. This provides several advantages, including: making it easy to isolate one channel for development, debugging, and maintenance; making it easy to deploy or hold back specific channels; and providing visualization of where and how applications differ. (See Figure 19 and 55 and page 74, line 19 through page 75, line 7.)

The layers can be represented visually on the interaction workflow diagram 442 of FIG. 19 using different colors. Layers are functional as well--if a layer is hidden during deployment, its states is not deployed to the engine 132 and are unable to be used by end users.

By contrast, column 3, lines 56-67 of Flores discusses that: “A workflow can be linked (and initiate) multiple workflows from one of its phases. If all the workflows start at the same moment, the multiple workflows are said to have started in parallel. Multiple workflows can also be started serially.” Flores at column 3: 56-67; emphasis added. Thus, this section simply discloses linking of multiple workflows from one phase. Nothing in this section of Flores can be interpreted as teaching a “workflow comprising a plurality of **layers**,” as recited in claim 1. (See, for example, present application at FIGS. 19 and 55 and page 74, line 19 through page 75, line 7.)

Col. 5, lines 35-40 of Flores discloses “a GUI application that allows a business process analyst to specify the map of business processes with its network of workflows. Its output is readable by the application builder which will update the definitions database of the server.” column 5, lines 35-40 of Flores. Nothing in this section of Flores can be interpreted as teaching a “workflow comprising a plurality of **layers**,” as recited in claim 1.

The other cited portion of Flores discloses “The invention produces standard workflow maps of business processes that show workflows and the links defined between workflows.” column 7, lines 10-30 of Flores. Again, nothing in this section of Flores can be interpreted as teaching a “workflow comprising a plurality of layers,” as recited in claim 1.

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c. The cited references also fail to teach or suggest that “each of said layers corresponds to at least one channel of said multi-channel application, wherein said workflow comprises a plurality of states and a plurality of transitions, wherein each layer includes states and transitions common to at least one channel of said multi-channel application,” as required
10 *by claim 1.*

The Office also concedes that Flores fails to disclose that “each of said layers corresponds to at least one channel of said multi-channel application,” and that “each layer includes states and transitions common to at least one channel of said multi-channel application,” as recited in claim 1. Appellants agree.

15 In an attempt to supply these missing features of Flores, the Office cites paragraphs [0066] and [0095] of Christfort (reproduced above) as allegedly teaching that “each of said layers corresponds to at least one channel of said multi-channel application,” and that “each layer includes states and transitions common to at least one channel of said multi-channel application,” as recited in claim 1. Appellants submit that nothing in Christfort supports this position.

20 For example, paragraph [0066] of Christfort discusses that: “end users 130, 132, 134 are connected to host server 110 by connections 140, 142, 144, and that there are a number of different types of end users and connections.” Paragraph [0095] of Christfort discusses that: “[0095] As soon as a service has been created and/or revised, end users or customers that can connect to the network on which the server resides (e.g., the Internet) can access the service. The
25 process by which the service is accessed may vary based on the type of end user.”

Accordingly, the cited portions of Christfort do not disclose the concept of “layers,” not to mention that “each of said layers corresponds to at least one channel of said multi-channel application,” and that “each layer includes states and transitions common to at least one channel of said multi-channel application,” as recited in claim 1.

Thus, Appellants submit that the cited references fail to teach or suggest, for example, that the workflow comprises “a plurality of layers, wherein each of said layers corresponds to at least one channel of said multi-channel application, wherein said workflow comprises a plurality of states and a plurality of transitions, wherein each layer includes states and transitions common to at least one channel of said multi-channel application,” as required by claim 1.

For at least the foregoing reasons, Appellants submit that claim 1, and its dependent claims 2-4 and 6, are not obvious over Flores in view of Christfort. In addition, because independent Claim 1 is nonobvious, dependent Claims 2-4 and 6 are also nonobvious. In re Fine, supra.

2. Independent Claim 7 and Dependent Claims 8-12

Claim 7 relates to a computer system for visually building multi-channel applications.

Claim 7 requires:

a graphical user interface (GUI) comprising a user interface selection device and a display for displaying an interactive development environment for visually designing workflow describing a multi-channel application capable of operating over a plurality of channels,

said environment being adapted to allow a developer to independently design said workflow in a plurality of layers, wherein each layer includes states and transitions common to at least one channel of said multi-channel application.
(Emphasis added.)

For at least the reasons stated above with respect to claim 1, Appellants submit that the cited references fails to teach or suggest an system for “visually designing workflow describing a multi-channel application capable of operating over a plurality of channels, said environment being adapted to allow a developer to independently design said workflow in a plurality of layers,” or that “each layer includes states and transitions common to at least one channel of said multi-channel application,” as recited in claim 7.

Accordingly, for at least the foregoing reasons, Appellants submit that claim 7, and its dependent claims 8-12, are patentable over the cited references. In addition, Appellants submit that many of the dependent claims are separately patentable since they include limitations not taught or suggested by the cited references.

Dependent Claim 9

For example, the Office Action also rejects dependent claims 9- 12 based on paragraphs [0066] and [0095] of Christfort which are reproduced above. Dependent claim 9 requires that the “GUI is adapted to independently display a root layer including states common to each of said channels of said multi-channel application, and to allow a developer to visually design said root layer.” Appellants submit that the cited sections of Flores and Christfort fail to teach at least the above-underlined recitations of claim 9. Accordingly, Appellants submit that dependent claim 9 is also separately patentable.

Dependent Claim 10

Dependent claim 10 requires that the “GUI is further adapted to independently display a voice layer including states common to a voice channel of said multi-channel application, and to allow a developer to visually design said voice layer.” Appellants submit that the cited sections of Flores and Christfort fail to teach at least the above-underlined recitations of claim 10. Accordingly, Appellants submit that dependent claim 10 is also separately patentable.

Dependent Claim 11

Dependent claim 11 requires that the “GUI is further adapted to independently display a visual layer including states common to a visual channel of said multi-channel application, and to allow a developer to visually design said visual layer.” Appellants submit that the cited sections of Flores and Christfort fail to teach at least the above-underlined recitations of claim 11. Accordingly, Appellants submit that dependent claim 11 is also separately patentable.

Dependent Claim 12

Dependent claim 12 requires that the “GUI is further adapted to display combinations of said root, voice and visual layers.” Appellants submit that the cited sections of Flores and Christfort fail to teach at least the above-underlined recitations of claim 12. Accordingly, Appellants submit that dependent claim 12 is also separately patentable.

3. Independent claim 19 and Dependent Claims 20-23 and 25-26

For at least the reasons stated above with respect to claim 1, Appellants submit that the cited references fail to teach, for example, that the “designing an application workflow within said visual development environment in a plurality of layers, said application workflow comprising a plurality of states and a plurality of transitions, wherein said application workflow

describes a multi-channel application capable of operating over a plurality of channels, wherein the application workflow comprises a plurality of layers, wherein each layer includes states and transitions common to at least one channel of said multi-channel application,” as required by claim 19.

5 Appellants further submit that the cited references fail to teach, for example, “converting said application workflow into an application descriptor for delivering the application over at least one of the plurality of channels,” as required by claim 19. Appellants submit there is no teaching or suggestion of this recitation in the cited references. Appellants respectfully request that the Examiner provide a citation in the references which teaches this recitation.

10 Accordingly, for at least the foregoing reasons, Appellants submit that claim 19, and its dependent claims 20-23 and 25-26, are patentable over the cited references.

F. CLAIMS 13-14 and 16-18 ARE PATENTABLE UNDER 35 U.S.C. § 103(a) OVER
FLORES, CHRISTFORT, AND AMBLER.

15 The final Office action of October 17, 2006, also rejected Claims 13-14 and 16-18 under 35 U.S.C. § 103(a) as being unpatentable over Flores in view of Christfort, in view of Ambler. As will be explained in more detail herein below, this rejection is improper for at least the same reasons delineated above.

20 As discussed above, Flores and Christfort fail to disclose at least one feature of independent Claims 1, 7, and 19. For analogous reasons, Appellants submit that Flores and Christfort also fail to disclose at least one feature of independent Claims 13, and further submit Ambler also does not make up for the previously noted deficiencies of Flores and Christfort. For example, Appellants submit that Flores, Christfort and Ambler all fail to teach or suggest “a
25 graphical user interface adapted to allow a user to visually build a single workflow describing a multi-channel application capable of operating over a plurality of channels, the workflow comprising a plurality of layers, wherein each of said layers corresponds to at least one channel of said multi-channel application, wherein said single workflow comprises a plurality of states and a plurality of transitions, wherein each layer includes states and transitions common to at
30 least one channel of said multi-channel application,” as required by Claim 13.

For at least the foregoing reason, Appellants submit that the cited references fail to teach or suggest these recitations of claim 13. Accordingly, for at least the foregoing reasons, Appellants submit that claim 13, and its dependent claims 14 and 16-18, are patentable over the cited references.

IX. CONCLUSION OF ARGUMENTS

In view of the foregoing, Appellants submit that the final rejection of Claims 1-4, 6-14, 16-22 and 25-26 is improper and should be withdrawn. As such, Appellants respectfully request reversal of the rejections in the final Office action dated October 17, 2006.

5

Respectfully submitted,

10 Dated April 23, 2007

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X. CLAIMS APPENDIX

Claims on Appeal

5 1. In a system for visually building multi-channel applications, a computer-readable medium having computer-executable modules comprising:

 a first module adapted to allow a developer to visually design workflow describing a multi-channel application capable of operating over a plurality of channels, the workflow comprising a plurality of layers, wherein each of said layers corresponds to at least one channel
10 of said multi-channel application, wherein said workflow comprises a plurality of states and a plurality of transitions, wherein each layer includes states and transitions common to at least one channel of said multi-channel application;

 a second module adapted to allow a developer to design views for said multi-channel application; and

15 a third module adapted to allow a developer to integrate data sources within said multi-channel application.

 2. The computer-readable medium of claim 1, further comprising:

 an interactive development environment for allowing a developer to interact with said
20 first, second and third modules to design said multi-channel application.

 3. The computer-readable medium of claim 2 wherein said interactive development environment comprises a graphical user interface for allowing a developer to visually interact with said first, second and third module.

25

4. The computer-readable medium of claim 1 wherein said system is adapted to allow a developer to design multi-modal applications.

5 6. The computer-readable medium of claim 1, wherein said system is adapted to allow a developer to design multi-channel applications including at least two channels selected from the group comprising voice channels, web channels, and wireless web channels.

7. A computer system for visually building multi-channel applications, comprising:
a graphical user interface (GUI) comprising a user interface selection device and a
10 display for displaying an interactive development environment for visually designing workflow describing a multi-channel application capable of operating over a plurality of channels,
said environment being adapted to allow a developer to independently design said workflow in a plurality of layers, wherein each layer includes states and transitions common to at least one channel of said multi-channel application.

15

8. The computer system of claim 7 wherein said GUI is used for independently displaying and designing said plurality of layers.

9. The computer system of claim 8 wherein said GUI is adapted to independently
20 display a root layer including states common to each of said channels of said multi-channel application, and to allow a developer to visually design said root layer.

10. The computer system of claim 9 wherein said GUI is further adapted to independently display a voice layer including states common to a voice channel of said multi-channel application, and to allow a developer to visually design said voice layer.

5 11. The computer system of claim 10 wherein said GUI is further adapted to independently display a visual layer including states common to a visual channel of said multi-channel application, and to allow a developer to visually design said visual layer.

10 12. The computer system of claim 11 wherein said GUI is further adapted to display combinations of said root, voice and visual layers.

13. A computer system for visually building a multi-channel application capable of operating over a plurality of channels, comprising:

15 a graphical user interface adapted to allow a user to visually build a single workflow describing a multi-channel application capable of operating over a plurality of channels, the workflow comprising a plurality of layers, wherein each of said layers corresponds to at least one channel of said multi-channel application, wherein said single workflow comprises a plurality of states and a plurality of transitions, wherein each layer includes states and transitions common to at least one channel of said multi-channel application; and

20 a module for converting said visually built workflow into a markup language.

14. The computer system of claim 13 wherein said markup language comprises an XML-based language.

16. The computer system of claim 13 wherein said graphical user interface is adapted to allow a user to visually build a single workflow for a multi-channel application capable of operating in a plurality of modes.

5 17. The computer system of claim 13 further comprising:

a second graphical user interface adapted to allow a developer to build views of multi-channel application; and

a second module adapted to convert said built views into a markup language.

10 18. The computer system of claim 17 wherein said markup language comprises an XML-based language.

19. A method of building a multi-channel application, comprising the steps of:

providing a visual development environment;

15 designing an application workflow within said visual development environment in a plurality of layers, said application workflow comprising a plurality of states and a plurality of transitions, wherein said application workflow describes a multi-channel application capable of operating over a plurality of channels, wherein the application workflow comprises a plurality of layers, wherein each layer includes states and transitions common to at least one channel of said
20 multi-channel application;

linking said states; and

converting said application workflow into an application descriptor for delivering the application over at least one of the plurality of channels.

20. The method of claim 19 further comprising the step of:

designing a presentation of said application within said visual development environment.

5 21. The method of claim 20 further comprising the step of:

internationalizing said presentation of said application within said visual development environment.

22. The method of claim 21 further comprising the step of:

10 integrating data sources into said application by use of said visual development environment.

25. The method of claim 19 further comprising the step of:

15 componentizing a plurality of said states and transitions into a reusable sub-model within said visual development environment.

26. The method of claim 21 further comprising the step of:

packaging said application workflow into a reusable component within said visual development environment.

XI. EVIDENCE APPENDIX

No evidence pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 has been entered by the Examiner or relied upon by Appellants in the instant appeal.

XII. RELATED PROCEEDINGS APPENDIX

There are no related appeals or interferences. As such, there are also no decisions rendered by a court or the Board of Patent Appeals and Interferences that are related to the instant appeal.